REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed August 25, 2006 (Paper No. 20060812). Upon entry of this response, claims 1-3, 7-8, 13-17, 20-22, 26-27, 30-31, 33-36, and 40-59 are pending in the application. In this response, claims 1, 15, 22, 36, 43-44, and 48 have been amended, claims 50-59 have been added, and claims 10, 19, 23-25, 28-29, and 37-39 have been cancelled. Applicants respectfully request that the amendments being filed herewith be entered and request that there be reconsideration of all pending claims.

1. Interview Summary

A telephone interview took place on October 4, 2006. The attendees were Examiner Kalyan K. Despande, Supervisory Examiner Catherine M. Tarae, Applicant Illah Nourbakhsh, and Applicant's representatives Karen Hazzah and Andy Pham. During the interview, the parties discussed differences between the instant application and U.S. Patent No. 6,639,982 to *Stuart et al.* The Examiners suggested several claim amendments which they believe could distinguish over *Stuart et al.*, including defining "long-range planning" with more specificity, and further defining the algorithm which determines profile sizes and attributes (including attrition). Although agreement was not reached during the interview, Applicants wish to thank the Examiners for their time.

2. Claim Objections

Claims 9 and 43-44 are objected to because of various informalities such as misspellings and repeated words. Claims 9 and 43-44 have been amended to correct these informalities. Applicants respectfully submit that the objections have been overcome, and request that the objection be withdrawn.

3. Rejection of Claim 45 under 35 U.S.C. § 112, First Paragraph

Claim 45 is rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Office Action states that "[c]laim 45 recites a queue bunch factor. The specification is silent as to this feature…" (Office Action, p. 3, section 7.) Claim 45 has been amended to recite "queue bunching variable," which is found in the equations at p. 18, lines 10-20 of the instant specification. Applicants respectfully submit that the rejection of claim 45 has been overcome, and requests that the rejection be withdrawn.

4. Rejection of Claims 1-3, 7, 9-10, 16-17, 19-20, 22-25, 27-31, 33-34, and 36-39 under 35 U.S.C. §102

Claims 1-3, 7, 9-10, 16-17, 19-20, 22-25, 27-31, 33-34, and 36-39 have been rejected under §102(e) as allegedly anticipated by *Stuart et al.* (U.S. 6,639,982). Applicants respectfully submit that this rejection has been overcome by claim amendments made herein. A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983).

A. Claim 1

1) *Stuart et al.* does not disclose, teach, or suggest "receiving a definition for each of a plurality of agent profiles comprising a group of agents that have similar characteristics…including at least one skill"

Stuart et al. uses the term "profile" as follows:

> Additionally, the call distribution means is fully operational with existing call management systems and may make use of **individual call agent performance data** stored in various locations within the existing call center management system. The types of data that the invention may utilize include: agent skill profiles; agent cost profiles; agent education and training records, among many others. It is important to note that the invention is capable of interacting with existing systems that store this type of data or is equally as capable of having this type of data made available to the invention in some other manner.
> *Stuart et al.*, col. 12, lines 35-40, emphasis added.

16

Thus, "profile" as used in *Stuart et al.* refers to information about a particular individual agent. In contrast, claim 1 recites "each of a plurality of agent profiles comprising a **group** of agents that have similar characteristics." Thus, the profiles described in *Stuart et al.* do not correspond to an agent profile as recited in claim 1, as alleged in the Office Action.

In discussing this particular feature recited in claim 1, the Office Action also refers to col. 7, lines 53-67 of *Stuart et al.* This passage merely states that "an enhanced work group configuration includes a number of force management variables, including agent work groups, or teams (team configuration), a number of agents working within each team (team size) as well as a division of an individual agent's tour among various teams (agent tour)." Claim 1 has been amended to recite "receiving a definition for each of a plurality of agent profiles." Even assuming, *arguendo*, that agent teams correspond to "profiles" as recited in claim 1, this passage does not teach "receiving a definition" of a plurality of agent teams/profiles as recited in amended claim 1.

2) *Stuart et al.* does not disclose, teach, or suggest "the definition includes at least one attribute specifying a change in the number of agents in the group during a specified time period"

The Office Action alleges that *Stuart et al.* teaches "a variable defining the composition of the group for a specified period of time can be defined." The Office Action appears to allege that this teaching corresponds to an agent profile including "at least one attribute specifying a change in the number of agents in the group during a specified time period" as recited in claim 1. (Office Action, p. 4, last para.) Applicants respectfully disagree.

The Office Action did not specify what portion of *Stuart et al.* contains a teaching of "a variable defining the composition of the group for a specified period of time". This section of the Office Action refers to three passages in *Stuart et al.*: definition of profiles (Col. 12, lines 35-40); definition of teams (Col. 7, lines 53-67); and call overflow among teams (Col 11, lines 35-45). None of these passages teaches "at least one attribute specifying a change in the number of agents in the group during a specified time period" as recited in claim 1. As argued above, a

Stuart profile is per-agent data and not a group of agents, and cannot therefore correspond to the claimed feature. The description of agent teams in *Stuart et al.* merely suggests that team size can change. Applicants have amended claim 1 to further clarify the change in the number of agents: "at least one attribute specifying ***an amount of change*** in the number of agents in the group during a specified time period", which is not disclosed, taught, or suggested by Col. 7, lines 53-67 of *Stuart et al.* Finally, the call overflow passage in *Stuart et al.* does not describe changes to a team size, but rather calls being moved from one team to another.

> 3) *Stuart et al.* does not disclose, teach, or suggest "specifying at least one criteria to be satisfied by a long-range staffing plan, wherein the plan covers a period that is more than a month in the future"

Applicants have amended claim 1 to further clarify the meaning of "long-range." Claim 1 now recites "a long-range staffing plan, wherein the plan covers a period that is more than a month in the future." *Stuart et al.* does not disclose this feature. Applicants respectfully submit that a person of ordinary skill in the art would understand that *Stuart et al.* is directed not to long-range staffing plans, but to real-time dynamic load balancing, in which actual agents are temporarily grouped into one or more teams, and the call routing system is reprogrammed to ensure that the main agent team has an appropriate level of occupancy while additional calls are overflowed to secondary teams.

> 4) *Stuart et al.* does not teach "iteratively adding additional other agents from the agent profiles to the proposed schedule and iteratively calculating effects of adding the additional agents taking into account each agent already added until the available work for every agent in the plurality of agent profiles has been distributed"

The Office Action does not appear to allege that *Stuart et al.* specifically teaches the above-described features ("iteratively..."). Instead, the Office Action states that "[l]inear programming optimization is the same as iterative summation" (Office Action, p. 6, third para.)

Applicants first note that the iteratively adding and calculating steps should be interpreted in light of the entire claim, which specifies that these steps are part of "determining the long-range staffing plan." Claim 1 further recites that "the plan covers a period that is more

than a month in the future." A person of ordinary skill in the art would understand that conventional linear programming optimization techniques are inappropriate for long-range planning, because these techniques are computationally intractable. For at least this reason, a person of ordinary skill in the art would not view the above-described iterative features as equivalent to linear programming optimization.

Even assuming, *arguendo*, that linear programming and iterative summation are equivalent, the quantity being linearly programmed in *Stuart et al.* is not relevant to the quantity being iteratively summed in the present application. In rejecting this particular claim feature, the Office Action refers to passages in *Stuart et al.* which teach overflow computation and dynamic, real-time balancing of work force configuration. These work force configuration adjustments are explicitly listed (Col. 17 lines 20-21 and Col. 8, lines 47-53) in terms of modifying agent tours across agent groups in real time. That is, *Stuart et al.* teaches load-balancing and **redistribution of the same agents** across multiple hierarchical groups. In contrast, claim 1 recites a different computation: adding agent capacity **one at a time** in the form of groups in profiles. A person of ordinary skill in the art would understand this as incrementally computing how the overall load changes. This feature is orthogonal to the concepts in *Stuart et al.* of agent tour regrouping, overflow calculations, and work load balancing.

For at least the reason that *Stuart et al.* fails to disclose, teach or suggest the above-described features, Applicants respectfully submit that *Stuart et al.* does not anticipate claim 1. Therefore, Applicants request that the rejection of claim 1 be withdrawn.

B. <u>Claims 16 and 30</u>

        1) <u>*Stuart et al.* does not disclose, teach, or suggest "receive a definition of at least one employee profile, wherein an employee profile comprises a group of employees that have similar characteristics, wherein the characteristics include a skill set"</u>

Stuart et al. uses the term "profile" as follows:

        Additionally, the call distribution means is fully operational with
        existing call management systems and may make use of

> ***individual call agent performance data*** stored in various
> locations within the existing call center management system. The
> types of data that the invention may utilize include: agent skill
> profiles; agent cost profiles; agent education and training records,
> among many others. It is important to note that the invention is
> capable of interacting with existing systems that store this type of
> data or is equally as capable of having this type of data made
> available to the invention in some other manner.
> *Stuart et al.*, col. 12, lines 35-40, emphasis added.

Thus, "profile" as used in *Stuart et al.* refers to information about a particular individual agent. In contrast, claims 16 and 30 recite "each of a plurality of agent profiles comprising a ***group*** of agents that have similar characteristics." Thus, the profiles described in *Stuart et al.* do not correspond to an agent profile as recited in claims 16 and 30, as alleged in the Office Action.

In discussing this particular feature recited in claims 16 and 30, the Office Action also refers to col. 7, lines 53-67 of *Stuart et al.* This passage merely states that "an enhanced work group configuration includes a number of force management variables, including agent work groups, or teams (team configuration), a number of agents working within each team (team size) as well as a division of an individual agent's tour among various teams (agent tour)." Even assuming, *arguendo*, that agent teams correspond to "profiles" as recited in claims 16 and 30, this passage does not teach "receive a definition" of a plurality of agent teams/profiles as recited in claims 16 and 30.

> 2) *Stuart et al.* does not disclose, teach, or suggest "wherein the characteristics include...at least one attribute specifying a change in the number of agents in the group during a specified time period"

The Office Action alleges that *Stuart et al.* teaches "a variable defining the composition of the group for a specified period of time can be defined." The Office Action appears to allege that this teaching corresponds to an agent profile including "at least one attribute specifying a change in the number of agents in the group during a specified time period" as recited in claims 16 and 30 (Office Action, p. 4, last para.). Applicants respectfully disagree.

The Office Action did not specify what portion of *Stuart et al.* contains a teaching of "a variable defining the composition of the group for a specified period of time". This section of the

Office Action refers to three passages in *Stuart et al.*: definition of profiles (Col. 12, lines 35-40); definition of teams (Col. 7, lines 53-67); and call overflow among teams (Col 11, lines 35-45). None of these passages teaches "at least one attribute specifying a change in the number of agents in the group during a specified time period" as recited in claims 16 and 30. As argued above, a *Stuart* profile is per-agent data and not a group of agents, and cannot therefore correspond to the claimed feature. The description of agent teams in *Stuart et al.* merely suggests that team size can change, but does not disclose "an **attribute specifying** a change in the number of agents." Finally, the call overflow passage in *Stuart et al.* does not describe changes to a team size, but rather calls being moved from one team to another.

> 3) *Stuart et al.* does not disclose, teach, or suggest "specifying at least one criteria to be satisfied by a long-range staffing plan, wherein the plan covers a period that is more than a month in the future"

Applicants have amended claims 16 and 30 to further clarify the meaning of "long-range". Claims 16 and 30 now recite "a long-range staffing plan, wherein the plan covers a period that is more than a month in the future." *Stuart et al.* does not disclose this feature. Applicants respectfully submit that a person of ordinary skill in the art would understand that *Stuart et al.* is directed not to long-range staffing plans, but to real-time dynamic load balancing, in which actual agents are temporarily grouped into one or more teams, and the call routing system is reprogrammed to ensure that the main agent team has an appropriate level of occupancy while additional calls are overflowed to secondary teams.

> 4) *Stuart et al.* does not teach "iteratively adding additional other agents from the agent profiles to the proposed schedule and iteratively calculating effects of adding the additional agents taking into account each agent already added until the available work for every agent in the plurality of agent profiles has been distributed"

The Office Action does not appear to allege that *Stuart et al.* specifically teaches the above-described features ("iteratively…"). Instead, the Office Action states that "[l]inear programming optimization is the same as iterative summation" (Office Action, p. 6, third para.)

21

Applicants first note that the iteratively adding and calculating steps should be interpreted in light of the entire claim, which specifies that these steps are part of "determining the long-range staffing plan." Claims 16 and 30 further recite that "the plan covers a period that is more than a month in the future." A person of ordinary skill in the art would understand that conventional linear programming optimization techniques are inappropriate for long-range planning, because these techniques are computationally intractable. For at least this reason, a person of ordinary skill in the art would not view the above-described (iterative) features as equivalent to linear programming optimization.

Even assuming, *arguendo*, that linear programming and iterative summation are equivalent, the quantity being linearly programmed in *Stuart et al.* is not relevant to the quantity being iteratively summed in the present application. In rejecting this particular claim feature, the Office Action refers to passages in *Stuart et al.* which teach overflow computation and dynamic, real-time balancing of work force configuration. These work force configuration adjustments are explicitly listed (Col. 17 lines 20-21 and Col. 8, lines 47-53) in terms of modifying agent tours across agent groups in real time. That is, *Stuart et al.* teaches load-balancing and **redistribution of the same agents** across multiple hierarchical groups. In contrast, claims 16 and 30 recite a different computation: adding agent capacity **one at a time** in the form of groups in profiles. A person of ordinary skill in the art would understand this as incrementally computing how the overall load changes. This feature is orthogonal to the concepts in *Stuart et al.* of agent tour regrouping, overflow calculations, and work load balancing.

For at least the reason that *Stuart et al.* fails to disclose, teach or suggest the above-described features, Applicants respectfully submit that *Stuart et al.* does not anticipate claims 16 and 30. Therefore, Applicants request that the rejection of claims 16 and 30 be withdrawn.

C. Claims 2-3, 7, 9-10, 17, 19-20, 22-25, 27-29, 31, 33-34, and 36-39

Since claim 1 are allowable, Applicants respectfully submit that claims 2-3, 7, 9-10, 17, 19-20, 22-25, 27-29, 31, 33-34, and 36-39 are allowable for at least the reason that each

depends from an allowable claim. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir. 1988). Therefore, Applicants respectfully request that the rejection of claims 2-3, 7, 9-10, 17, 19-20, 22-25, 27-29, 31, 33-34, and 36-39 be withdrawn.

5.   Rejection of Claims 8, 14-15, 21, 27, and 41-42 under 35 U.S.C. §103

Claims 8, 14-15, 21, 27, and 41-42 have been rejected under §103(a) as allegedly obvious over *Stuart et al.* (6,639,982). Applicants respectfully traverse this rejection. Since independent claims 1, 16, and 30 are allowable, Applicants respectfully submit that claims 8, 14-15, 21, 27, and 41-42 are allowable for at least the reason that each depends from an allowable claim. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir. 1988). Therefore, Applicants respectfully request that the rejection of claims 8, 14-15, 21, 27, and 41-42 be withdrawn.

6.   Rejection of Claims 13, 26, 35, and 40 under 35 U.S.C. §103

Claims 13, 26, 35, and 40 have been rejected under §103(a) as allegedly obvious over *Stuart et al.* (6,639,982) in view of *Kintner et al.* (6,732,079). Applicants respectfully traverse this rejection. Since independent claims 1, 16, and 30 are allowable, Applicants respectfully submit that claims 13, 26, 35, and 40 are allowable for at least the reason that each depends from an allowable claim. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir. 1988). Therefore, Applicants respectfully request that the rejection of claims 13, 26, 35, and 40 be withdrawn.

7.   Rejection of Claims 43-49 under 35 U.S.C. §103

Claims 43-49 have been rejected under §103(a) as allegedly obvious over *Stuart et al.* (6,639,982) in view of *Constonguay et al.* (5,911,134). Applicants respectfully traverse this rejection. Since independent claims 1, 16, and 30 are allowable, Applicants respectfully submit that claims 43-49 are allowable for at least the reason that each depends from an allowable

claim. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir. 1988). Therefore,

Applicants respectfully request that the rejection of claims 43-49 be withdrawn.

8. <u>Newly Added Claims</u>

Applicants submit that new claims 50-59 are allowable over the cited references.

Specifically, dependent claims 50-59 are allowable over the cited references for at least the

reason that each depends from an allowable claim. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d

1596, 1598 (Fed. Cir. 1988). Therefore, Applicants request the Examiner to enter and allow the

above new claims.

CONCLUSION

Applicants respectfully request that all outstanding objections and rejections be withdrawn and that this application and presently pending claims 1-3, 7-8, 13-17, 20-22, 26-27, 30-31, 33-36, and 40-59 be allowed to issue. Any statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Furthermore, any and all findings of well-known art and official notice, or statements interpreted similarly, should not be considered well known since the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support such conclusions. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted,

By: /Karen G. Hazzah/

Karen G. Hazzah,
Reg. No. 48,472

**THOMAS, KAYDEN, HORSTEMEYER
& RISLEY, L.L.P.**
100 Galleria Parkway, NW
Suite 1750
Atlanta, Georgia 30339-5948
Tel: (770) 933-9500
Fax: (770) 951-0933